

What is claimed is:

1. A print producing method of producing a print with varying a degree of gloss of a printing medium, said method  
5 comprising the steps of:

applying ink including a color material to the printing medium; and

applying a predetermined liquid droplet different from the ink to the printing medium to which the ink has been  
10 applied,

wherein said application of the predetermined liquid droplet causes the degree of gloss to be varied among a plurality of levels.

15 2. A method as claimed in claim 1, further comprising step of forming a layer of the predetermined liquid droplet on the surface of the printing medium by employing said predetermined liquid droplet applying step, said layer forming step controlling a level of integrating a plurality  
20 of the predetermined liquid droplets, which are applied for forming the layer, to vary the degree of gloss.

3. A print producing method of producing a print including parts which are different in a degree of gloss to each other,  
25 said method comprising the step of:

applying a predetermined liquid droplet reacting with a surface of a printing medium to the surface of said printing

medium,

wherein said predetermined liquid droplet applying step applies the predetermined liquid so that a plurality of the parts different in the degree of gloss exist on the surface of the printing medium.

4. A method as claimed in claim 1, wherein a haze of the printing medium is also varied among a plurality of levels in connection with forming a layer with the predetermined liquid droplet applied.

5. A method as claimed in claim 1, wherein the predetermined liquid droplet contains an aqueous medium and a polymer having the structure formulated by the general formula shown below, and the polymer is insolubilized when the predetermined liquid is applied to the surface of the printing medium so that the predetermined liquid droplet is insolubilized on the surface of the printing medium.

formula - COOA

in this formula, "A" denotes alkali metal, amine, or organic amine.

6. A method as claimed in claim 1, wherein the surface of the printing medium has a pH contributing to insolubilize the polymer.

7. A method as claimed in claim 1, wherein an ink receiving layer of the printing medium contain polyvalent metal ions of such a concentration as insolubilizes the polymer.

5 8. A method as claimed in claim 2, wherein said layer forming step controls application of the plurality of predetermined liquid droplets so that the plurality of predetermined liquid droplets are dividedly applied at intervals, each of which has a time equal to or longer than a predetermined  
10 time, to control the level of integrating the plurality of the predetermined liquid droplets.

9. A method as claimed in claim 2, wherein said layer forming step varies the number of the droplets applied adjacently  
15 to each other within a predetermined time to control the level of integrating the plurality of the predetermined liquid droplets.

10. A method as claimed in claim 2, wherein said layer forming  
20 step forms a first layer by application of the predetermined liquid droplet to an area of the printing medium to which the layer is to be formed and applies the plurality of predetermined liquid droplets on the first layer to control the level of integrating the plurality of the predetermined  
25 liquid droplets.

11. A method as claimed in claim 2, wherein said layer forming

step forms a first layer by application of the predetermined liquid droplet to all area of the printing medium and applies the plurality of the predetermined liquid droplets on the first layer to control the level of integrating the plurality  
5 of the predetermined liquid droplets.

12. A method as claimed in claim 2, wherein said layer forming step controls application of the plurality of the predetermined liquid droplets so that the plurality of the  
10 predetermined liquid droplets varies in size among a plurality of sizes to control the level of integrating the plurality of the predetermined liquid droplets.

13. A method as claimed in claim 8, wherein said layer forming  
15 step varies applying rates of respective divided predetermined liquid droplets to control the level of integrating the plurality of the predetermined liquid droplets.

20 14. A method as claimed in claim 1, wherein said predetermined liquid droplet applying step applies the predetermined liquid droplet so that the a plurality of parts different in the degree of gloss are formed on the same printing medium.

25 15. A print producing method of producing a print including parts which are different in a degree of gloss to each other,

said method comprising the step of:

applying a predetermined liquid droplet reacting with  
a surface of a printing medium to said printing medium so  
that a level of integrating the plurality of the  
5 predetermined liquid droplets are differentiated to form  
the plurality of parts different in the degree of gloss.

wherein the plurality of parts different in the level  
of integration have different degree of gloss respectively.

10 16. A print producing method of producing a print including  
parts which are different in a degree of gloss to each other,  
said method comprising the step of:

applying ink to a printing medium; and

applying a predetermined liquid droplet to a printing  
15 medium so that a condition of the surface of the printing  
medium are differentiated to form the plurality of parts  
different in the surface condition,

wherein the plurality of parts different in the surface  
condition have different degree of gloss respectively.

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17. A method as claimed in claim 1, said layer forming step  
is executed by ejecting the predetermined liquid droplet  
from a ink jet head provided with a plurality of nozzles.

25 18. A print producing method of producing a print including  
parts which are different in a degree of gloss to each other,  
said method comprising the step of:

ejecting ink to a printing medium from an ink jet head while the ink jet head is employed to scan the printing medium, and

5       ejecting a predetermined liquid droplet from an ink jet head to a printing medium to which ink has been ejected while the ink jet head is employed to scan the printing medium so that the numbers of times of scan are differentiated to form the plurality of parts,

10       wherein the plurality of parts different in the number of scan have different degree of gloss respectively.

19. A print producing method of producing a print with varying a degree of gloss of a printing medium, said method comprising the step of:

15       ejecting a predetermined liquid droplet reacting with the printing medium to said printing medium from an ink jet head while the ink jet head is employed to scan the printing medium,

20       wherein the number of times of scan required for ejecting the predetermined liquid droplet is varied to vary the degree of gloss.

20. A print producing method of producing a print including parts which are different in a degree of gloss to each other, 25       said method comprising the step of:

      ejecting ink to a printing medium from an ink jet head while the ink jet head is employed to scan the printing

medium; and

ejecting a predetermined liquid droplet from an ink jet head to a printing medium to which ink has been ejected while the ink jet head is employed to scan the printing medium at a plurality of times, wherein respective masks are employed to generate ejection data for the plurality of times of scan and the predetermined liquid droplet is ejected based on the ejection data generated by employing the masks, to form the parts,

wherein said predetermined liquid droplet ejecting step employs a plurality of masks different in the size of minimum processing unit and employs the plurality of masks to form a plurality of parts different in a degree of gloss, and the plurality of parts different in the number of scan have different degree of gloss respectively.

21. A print producing method of producing a print with varying a degree of gloss of a printing medium, said method comprising the step of:

ejecting a predetermined liquid droplet reacting with the printing medium from an ink jet head to a printing medium while the ink jet head is employed to scan the printing medium at a plurality of times, wherein respective masks are employed to generate ejection data for the plurality of times of scan and the predetermined liquid droplet is ejected based on the ejection data generated by employing the masks, to form a layer,

wherein said step of ejecting a predetermined liquid droplet varies a minimum processing unit of the mask to vary the degree of gloss.

- 5 22. A print producing method which uses a liquid head provided with a plurality of ejection openings and ejecting a predetermined liquid to employ the liquid head for scanning a printing medium in a direction different to a direction in which the plurality of ejection openings are arranged,  
10 and to eject the predetermined liquid from the liquid head to the printing medium to form a layer, so that a print is produced with varying a degree of gloss,

wherein respective ejection amounts of ejection openings are varied in accordance with positions in the  
15 arranging direction of the plurality of ejection openings.

23. A method as claimed in claim 22, wherein a varying rate of the ejection amount in accordance with the position is differentiated in accordance with a range of ejection  
20 openings employed in one scanning.

24. A method as claimed in claim 22, wherein areas of the printing medium to which the predetermined liquid is centered are determined and the ejection amount of the  
25 plurality of ejection openings corresponding to the area is varied for each area.



25. A method as claimed in claim 22, wherein the respective ejection amounts of ejection openings are varied so that the closer to the end position of the arrangement the ejection opening is, the greater the ejection amount is.

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26. A method as claimed in claim 25, wherein the respective ejection amounts of ejection openings are varied so that the closer to the center position of the arrangement the ejection opening is, the smaller the ejection amount is.

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27. A print producing apparatus for producing a print with varying a degree of gloss of a printing medium, said apparatus comprising:

15 layer forming means for applying a liquid to form a layer,

wherein the formation of the layer causes the degree of gloss to be varied among a plurality of levels.

20 28. A print producing apparatus for producing a print with varying a degree of gloss of a printing medium, said apparatus comprising:

layer forming means for applying a liquid to form a layer,

25 wherein said layer forming means is means for forming the layer by applying a predetermined liquid droplet, and said means controls a level of integrating a plurality of the predetermined liquid droplets, which are applied for

forming the layer, to vary the degree of gloss.

29. A print producing apparatus for producing a print with  
varying a degree of gloss of a printing medium, said apparatus  
5 comprising:

layer forming means for ejecting a predetermined liquid  
droplet to the printing medium from an ink jet head while  
the ink jet head is employed to scan the printing medium  
to form a layer on the printing medium,

10 wherein the number of times of scan required for forming  
the layer is varied to vary the degree of gloss.

30. A print producing apparatus which uses a liquid head  
provided with a plurality of ejection openings and ejecting  
15 a predetermined liquid to employ the liquid head for scanning  
a printing medium in a direction different to a direction  
in which the plurality of ejection openings are arranged,  
and to eject the predetermined liquid from the liquid head  
to the printing medium to form a layer, so that a print  
20 is produced with varying a degree of gloss,

wherein respective ejection amounts of ejection  
openings are varied in accordance with positions in the  
arranging direction of the plurality of ejection openings.